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PATENT APPLICATION

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)
: Examiner: Unknown
HITOSHI SUGIMOTO, ET AL.)
: Group Art Unit: Unknown
Serial No.: 08/248,513)
:
Filed: May 24, 1994)
:
For: INK-JET RECORDING) August 12, 1994
: APPARATUS AND INK-JET
: RECORDING METHOD USING
: INKS OF DIFFERENT
: DENSITIES, AND RECORDED
: ARTICLES

The Honorable Commissioner of Patents
and Trademarks
Washington, D.C. 20231

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INFORMATION DISCLOSURE STATEMENT

Sir:

In compliance with the duty of disclosure under 37
C.F.R. § 1.56 and in accordance with the practice under 37
C.F.R. §§ 1.97 and 1.98, the Examiner's attention is directed
to the documents listed on the enclosed Form PTO-1449, which
include documents with a common assignee, or that are
discussed in the specification. Copies of these documents
are provided for the Examiner's convenience, and are listed
on the attached Form PTO-1449:

<u>U.S. Patent No.</u>	<u>Inventor(s)</u>	<u>Issue Date</u>
4,740,796	Endo et al.	April 26, 1988
4,723,129	Endo et al.	February 2, 1988
4,558,333	Sugitani et al.	December 10, 1985
4,463,359	Ayata et al.	July 31, 1984

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4,459,600	Sato et al.	July 10, 1984
4,345,262	Shirato et al.	August 17, 1982
4,313,124	Hara	January 26, 1982

Foreign Documents

Publication Dates

Japanese Laid-Open Patent
Document No. 60-71260

April 23, 1985

Japanese Laid-Open Patent
Document No. 59-138461

August 8, 1984

Japanese Laid-Open Patent
Document No. 59-123670

July 17, 1984

Japanese Laid-Open Patent
Document No. 54-56847

May 8, 1979

The Examiner's attention is also directed to the following U.S. Applications:

<u>SERIAL NO.</u>	<u>FILING DATE</u>	<u>GROUP ART UNIT</u>
Hand(=) 389 15-08/234,958	April 28, 1994	--
Yackey (inc) 283 08/094,894	July 22, 1993	--
Hand(inc) 43 08/094,314	July 21, 1993	2108
Hand(inc) 106 08/087,069	July 7, 1993	2108
5395434 32 08/079,726	June 22, 1993	2514

In accordance with 37 C.F.R. § 1.98(a)(2)(iii), no copy of any cited U.S. Application is enclosed.

U.S. Patent Nos. 4,740,796, 4,723,129, 4,463,359, 4,345,262, and 4,313,124, 4,558,333 and 4,459,600 are discussed in the specification at page 63, line 24 to page 65, line 11, to which the Examiner is respectfully referred. Japanese Laid-Open Patent Document Nos. 59-123670 and 59-138461 are discussed in the specification at page 65, lines 12-20 to which the Examiner is respectfully referred. Japanese Laid-Open Patent Document Nos. 54-56847 and 60-71260 are discussed in the specification at page 67, lines 6-25 to

which the Examiner is respectfully referred. Translations of the above-cited Japanese patent documents are not provided herewith because such translations are not readily available to Applicants. 37 C.F.R. § 1.98(c). However, Applicants have obtained computerized abstracts, which are attached to each respective copy of the Japanese patent documents.

Co-pending U.S. Patent Application Serial No. 08/234,958 relates to an ink-jet recording apparatus that includes plural ink discharge means that discharges plural kinds of ink, each with a different density, the apparatus including converting means, binarizing means, inverting means, and distributing means.

Co-pending U.S. Patent Application Serial No. 08/094,894 relates to a color image forming method in which an image is formed using a black liquid with relatively superior diffusibility, and an image is formed with a color liquid (other than black) with relatively superior penetrability.

Co-pending U.S. Patent Application Serial No. 08/094,314 relates to an ink-jet recording method that includes applying an ink-jet recording head with a water-based ink containing a surfactant in an amount lower than the critical micelle concentration of the surfactant in the water-based ink, but higher than the critical micelle concentration of the surfactant in purified water, and conducting recording with the ink.


Co-pending U.S. Patent Application Serial No. 08/087,069 relates to an ink for ink-jet recording that includes dye, water, and components (a), (b) and (c), in which (a) is at least one surfactant selected from the group consisting of higher alcohol-ethylene oxide adducts represented by a general formula (1), alkylphenol-ethylene oxide adducts represented by a general formula (2), ethylene oxide-propylene oxide copolymers represented by a general formula (3), and acetylene glycol-ethylene oxide adducts represented by a general formula (4) in a defined content by weight, (b) is thiodiglycol, and (c) is urea or a derivative of urea. This application also relates to an ink-jet recording method employing the ink.

CONCLUSION

It is respectfully requested that the above information be considered by the Examiner and that an initialled copy of the enclosed Form PTO-1449 be returned indicating that such information has been considered.

Applicants' undersigned attorney may be reached in our Washington D.C. Office by telephone at (202) 347-8100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,


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